CLAIMS

1. Modular apparatus for data communication between a distribution network and a residential network, comprising:
- a first device adapted to interface a distribution network;
- at least one second device adapted to interface a residential network and to be mechanically and electrically connected to said first device;
characterized in that the apparatus further comprises at least one interconnecting device adapted to lock said first device and said at least one second device to each other and to activate electrical supply between said first device and said at least one second device.

2. Modular apparatus according to claim 1, wherein said at least one interconnecting device defines a first operative configuration wherein said first and at least one second devices are unlocked so as to be disconnectable from each other and wherein the electrical supply between said modules is prevented, and a second operative configuration wherein said first and at least one second devices are locked so as to be not disconnectable from each other and wherein the electrical supply between said modules is activated.

3. Modular apparatus according to claim 2, wherein said at least one interconnecting device comprises a locking element which is mobile between a first operative position corresponding to said first operative configuration of the apparatus and a second operative position corresponding to said second operative configuration of the apparatus.

4. Modular apparatus according to claim 3, further comprising:
- a first seat for said locking element formed on said first device;
- a second seat for said locking element formed on said at least one second device;

Replaced by Art 19

wherein said second seat slidably houses said locking element and said first seat is adapted to house a free end of said locking element when said locking element is at said second operative position.

5. Modular apparatus according to claim 4, further comprising a pin integrally formed with said first device and a hole formed into said locking element, wherein said hole slidably houses said pin and comprises a narrower end portion adapted to cooperate with said pin when said locking element is at said second operative position, thus securing said first device to said locking element.

6. Modular apparatus according to any of claims from 3 to 5, further comprising a switch adapted to be switched on by said locking element when said locking element is at said second operative position thus activating the electrical supply between said first and at least one second devices, and to be switched off by said locking element when said locking element is moved away from said second operative position thus deactivating the electrical supply between said first and least one second devices.

7. Modular apparatus according to any of the previous claims, further comprising a first processor housed into said first device, a second processor housed into said at least one second device and a data transmitting/receiving line between said first and second processors.

8. Modular apparatus according to claims 7, wherein said first processor is a microprocessor, said second processor is a microcontroller and said data transmitting/receiving line is a serial connection line.

9. Modular apparatus according to any of claims from 1 to 6, further comprising a first processor housed into said first device and a contactless data transmitting/receiving device between said first microprocessor and said at least one second device.

Replaced by Art 19

10. Modular apparatus according to claim 9, wherein said first processor is a network processor and said contactless data transmitting/receiving device comprises a reader chip housed into said first device and a memory chip housed into said at least one second device.

11. Method for communicating data between a distribution network and a residential network, comprising the steps of:
- interfacing a distribution network by a first device;
- interfacing a residential network by at least one second device;
- electrically and mechanically connecting said first device to said at least one second device;
characterized in that the method further comprises the step of locking said first device and said at least one second device to each other and activating the electrical supply between said first device and said at least one second device by means of at least one interconnecting device.

12. Method according to claim 11, wherein the step of locking said first device and at least one second device to each other and activating the electrical supply between said first device and said at least one second device comprises the steps of:
- moving at least one locking element from a first operative position wherein said first and at least one second devices are unlocked and disconnectable from each other, and the electrical supply between said first and at least one second devices is deactivated, to a second operative position wherein said first and at least one second devices are locked and not disconnectable from each other and the electrical supply between said first and at least one second devices is activated.

13. Method according to claim 12, wherein the step of moving said locking element from said first operative position to said second operative position comprises the step of switching on, when the locking element is at said second operative position, a switch which in turn activates

Replaced by Art 19

the electrical supply between said first and at least one second devices.

14. Method according to claim 13, wherein the step of switching on said switch further comprises the steps of:
- activating the electrical supply between said first device and said at least one second device;
- testing said at least one second device for identification thereof by means of the first device and:
  - if said test gives a positive result, enabling the data communication between said first and at least one second devices;
  - if said test gives a negative result, disabling the data communication between said first and at least one second devices.

15. A local communication network allowing to interconnect residential appliances, comprising a modular apparatus according to one of the claims from 1 to 10.

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